ABSTRACT

Prospective study of spontaneous bacterial peritonitis/spontaneous bacterial empyema(SBP/SBE) in a tertiary care center

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AIMS AND METHODS: Microbiolgical profile,response to antibiotics and factors affecting outcome were analyzed prospectively in patients with SBP with or without SBE from 2012 to 2014. Infections were categorized based on mode of acquisition into community acquired(CA),health care related(HCR) and Nosocomial acquired(NA) groups. Piperacillin-tazobactum was given for CA and HCR infections. NA type and any infection with multi organ dysfunction was given meropenem and teicoplanin. Antibiotic was escalated in nonresponders(defined as <25% reduction in ascitic/pleural fluid neutrophil count after 48 hours).

RESULTS: Among 283 episodes(in 255 patients, including 13 episodes of SBE), 51%,35% and 12% were in CA,HCR and NA respectively. Predominant etiology of cirrhosis was ethanol(45%). Ascitic/pleural fluid cultures grew an organism in 34%. Commonest organism was E.Coli in all groups(61%) followed by Enterococcus(14%). Among Gram negative organisms, Extended spectrum beta-lactamase(ESBL) producing isolates were noted in 44%,75% and 86% in CA,HCR and NA respectively. Vancomycin resistant Enterococci were grown in two episodes. Nonresponse was predicted by female sex, NA type of infection and prior exposure to antibiotic. In multivariate analysis, independent predictors of In-hospital mortality were nonresponse to antibiotic(80% vs 25%, p=0.05), presence at admission of organ failure (93% vs 45%, p<0.002),upper GI bleed(24% vs 9%, p=0.03) or hepatic encephalopathy(67% vs 23%, p=0.01). Type of SBP was not significant in multivariate analysis,probably due to different antibiotics used in different groups.

CONCLUSIONS: Enterobacteriaceae were the commonest group causing SBP/SBE. There was very high rate of ESBL producing isolates among Gram negative organisms, highest being in NA group. Day 3 response in ascitic/pleural fluid predicts mortality and host factors predict mortality better than microbiological factors or mode of acquisition of SBP/SBE.

Key words:
Spontaneous bacterial peritonitis(SBP)
Spontenaous bacterial empyema(SBE)
Community acquired (CA)
Health care related(HCR)
Nosocomial acquired(NA)
Enterobacteriaceae
Enterococcus
Resistance
ESBL-Extended spectrum Beta-lactamase
MODS-Multi organ dysfunction
Antibiotic
Response
Mortality